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Animal Industry Report

Animal Industry Report

AS 662

ASL R3077

2016

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Recommended Citation

Tranel, Larry F. (2016) "Organic Dairy Performance and Profitability in 2014," *Animal Industry Report*. AS 662, ASL R3077.

DOI: https://doi.org/10.31274/ans_air-180814-207

Available at: https://lib.dr.iastate.edu/ans_air/vol662/iss1/38

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Organic Dairy Performance and Profitability in 2014

A.S. Leaflet R3077

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Summary and Implications

This study analyzed and evaluated the performance and profitability of 31 organic dairies from 5 states using Dairy TRANS Financial Analysis software. The 2014 organic dairy data, with a few exceptions, shows profits.

Profits earned have been deemed to be very competitive with the best of other dairy systems as well. Profitable organic dairying depends on many factors such as productivity of labor, land and cows, but labor efficiency may be the most important.

Producers are also urged to consider using the Dairy TRANS Financial Analysis to analyze and further improve dairy profits regardless of the production system being utilized.

Introduction

Organic dairying continues to grow in popularity and organic dairy products continue to increase in market share. Dairy producers often pose the question if organic dairies are more profitable than conventional or grazing dairies? The answer depends on many variables and especially the management ability of the operator. Organic dairying has its production challenges but good profits can be earned for producers who manage the organic system well.

Materials and Methods

Iowa State University Extension and Outreach teamed up with CROPP Cooperative/Organic Valley to analyze the profits on 31 organic dairy farms broken into three groups from Eastern Iowa, Southwest Wisconsin, and a combination of North Carolina, Virginia, and West Virginia. Individual region data is included at the end of this article.

The Iowa and Wisconsin farms are clustered into three profit groups—high, medium, and low. The NC, VA and WV farms are split into two profit groups—high and low.

In all three regions, data shows organic dairying can be fairly profitable. But, as the lower profit group shows in all three regions, net income per cwt. equivalent may be negative meaning that opportunity costs for unpaid labor and equity may not be fully covered.

Profitability was determined based on a combination of the following measures:

- 1) Rate of Return on Assets
- 2) Cost of milk production per cwt. equivalent
- 3) Return to Unpaid Labor per hour

Results and Discussion

Iowa Profit Highlights (15 farms)

The Iowa data set defies traditional milk production logic with the highest profit group having the lowest milk production per cow but there was only a 7.5% difference among the three groups. The major point causing this inverse relationship is that two farms who have reduced grain feeding to near zero made their way into the most profitable farms with herd averages in the 6,000 – 7,000 pounds of milk range. The more profitable Iowa herds benefited from labor efficiency relative to the medium and low profit farms. The high profit farms had significantly more cows per FTE (43 vs. 33 and 33); more cwt. of milk sold per FTE (4,566 vs 3,897 and 3,664); and less labor cost per cow (\$807 vs. \$1,093 and \$1,361) relative to medium and low profit farms.

The medium profit organic farm group has a varied personality and gives confidence to the viability of the small organic, low-input dairy. Although it is the opinion of this author that “no grain” and “low grain” feeding are not the most profitable option, producer data is proving that it can be viable, even if not the most profitable. High Profit farms in Iowa again had higher fertilizer and seed cost per acre similar to 2013 data. Higher crop inputs seemingly translate into higher feed production per acre and less purchased feed costs per cow.

Wisconsin Profit Highlights (9 farms)

Wisconsin performed quite similar to Iowa in many aspects, including the inverse relationship between profit and milk production per cow. The highest producing herd, with good labor efficiency, just barely made its way into the low profit group as shortage of acres caused high purchased feed costs. In a small data set, one farm can skew results dramatically as is the case here.

Wisconsin, like Iowa, showed a very high correlation between profits and labor efficiency. The high profit farms in both states tended to milk in a high efficiency system such as a TRANS Iowa Low Cost Parlor with one producer handling 72 cows per FTE (Full-Time Equivalent) of Labor. Like Iowa, the High Profit farms had significantly more cows per FTE (42 vs. 25 and 28); more cwt. of milk sold per FTE (4,913 vs 3,302 and 4,304); and greater net return per FTE (\$68,053 vs. \$38,575 and \$19,178) than medium and low profit farms.

The data set on the medium profit farms demonstrates that high net farm income, even after adjustments for inventory, does not show the full picture of profitability or production costs. This is the reason why opportunity costs of both unpaid labor and equity need to be considered in order to fairly compare one farm to another. The opportunity cost is what the unpaid labor and equity could

have earned being employed elsewhere. This data set also shows the important balance between acres managed and cows, as high or low acres per cow lessened profit, but tough to infer with the limited number of farms.

NC, VA and WV Profit Highlights (7 farms)

Even with the smallest data set, this “SE USA” data set had both the highest and lowest profit farms. Thus, the profitability of the farms in this data set was extremely variable, especially in comparing the two most profitable farms versus the lowest profit farm with differences in production costs (>100%), return on assets (>25%) and returns to unpaid labor (>\$100/hour). Even within both the higher and lower profit groups, there was a wide range of profitability.

The milking system often has a major impact on labor efficiency. All farms in this group had milking parlors with efficiency potential, but efficiency differed more due to parlor management and design. Labor efficiency is a great strength of the Higher Profit versus Lower Profit farms with significantly more cows per FTE (61 vs. 37); more cwt. of milk sold per FTE (6,350 vs 3,277); less labor cost per cow (\$633 vs. \$884); less labor cost per cwt. eq. (\$5.76 vs. \$10.05) and less labor as a percent of total costs (18.12% vs. 23.17%).

Farms in this region showed an enormous difference in capital efficiency and intensity of resource use. The Higher

Profit farms purchased 56% less feed per cow (\$680 vs. \$1,066) than the Lower Profit farms, while only employing 2.1% more acres per cow than the Lower Profit farms (1.98 vs. 1.94).

Thus, land productivity, cow productivity and labor productivity were all important factors. Unlike the other regions, this data set showed a positive relationship with milk production per cow and profit like common sense says it should.

Summary and Data Table

The main findings of all the data is that labor efficiency is a main driver of profitability, more so than production per cow. Capital efficiency, especially productivity of land, is pretty important, too. When operated well, organic dairies can compete with the best of dairy systems in terms of profit.

The table shows a comparison of the three regions analyzed. However, because the data sets are small, it is difficult to conclude one region is more or less profitable than another. However, it does show that good profits are possible in all the regions studied and that, just because a farm is organic does not guarantee high profitability. As with many farm enterprises, there can be a significant variation in profits, based on management and efficient use of labor and capital resources. Bottom line is organic dairying has profit potential!

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Organic Dairy Farms 2014 Regional Comparison	Average of All Herds in:			Higher Profit Herds in:			Lower Profit Herds in:		
	E IA	SW WI	SE USA	E IA	SW WI	SE USA	E IA	SW WI	SE USA
Productive Crop Acres Operated	266	288	225	431	312	267	129	137	170
Average Number of Cows	73	65	104	108	74	121	38	58	83
Milk Price	\$31.57	\$31.28	\$35.02	\$31.47	\$31.41	\$35.14	\$30.13	\$31.12	\$34.86
Milk Sales per Cow	\$3,661	\$4,192	\$3,631	\$3,435	\$3,849	\$3,929	\$3,277	\$4,778	\$3,050
Total Cash Income per Cow	\$4,447	\$5,278	\$4,056	\$4,289	\$4,589	\$4,394	\$3,877	\$5,274	\$3,400
Feed Purchased per Cow	\$730	\$1,080	\$811	\$390	\$593	\$680	\$992	\$2,271	\$1,066
Total Cash Expense per Cow	\$2,902	\$3,664	\$2,495	\$2,457	\$2,839	\$2,502	\$2,626	\$4,431	\$2,481
Net Cash Income per Cow	\$1,545	\$1,614	\$1,561	\$1,832	\$1,749	\$1,892	\$1,250	\$843	\$919
Inventory Change per Cow	\$102	\$495	-\$8	\$177	\$495	\$6	\$111	\$472	-\$35
Net Farm Income per Cow	\$1,647	\$2,108	\$1,553	\$2,009	\$2,244	\$1,898	\$1,361	\$1,315	\$884
Equity Charge @ 4% per Cow	\$646	\$982	\$540	\$719	\$825	\$416	\$702	\$807	\$779
Return to Labor per Cow	\$1,001	\$1,126	\$1,014	\$1,290	\$1,419	\$1,481	\$660	\$508	\$105
Total Farm Assets per Cow	\$16,349	\$25,089	\$12,802	\$18,259	\$21,062	\$9,370	\$17,667	\$20,554	\$19,474
Labor Full Time Equivalents	1.98	2.26	2.12	2.55	2.28	2.00	1.19	1.99	2.28
Labor Earnings Per Hour	\$19.49	\$16.29	\$29.81	\$38.78	\$27.71	\$52.67	\$7.28	\$6.46	-\$0.66
Gross Income per Cwt. Eq.	\$31.57	\$31.28	\$35.02	\$31.47	\$31.41	\$35.14	\$30.13	\$31.12	\$34.86
Gross Expense per Cwt. Eq.	\$30.94	\$30.11	\$33.32	\$26.76	\$26.97	\$28.23	\$33.09	\$33.33	\$40.12
Net Income per Cwt. Eq.	\$0.63	\$1.17	\$1.70	\$4.71	\$4.44	\$6.91	-\$2.97	-\$2.22	-\$5.26
Adj. Gross Return per FTE Labor.....	\$161,706	\$176,291	\$206,961	\$190,791	\$199,210	\$262,269	\$140,014	\$166,859	\$133,217
Return to All Labor per FTE Labor.....	\$40,237	\$41,935	\$63,453	\$62,684	\$68,053	\$95,974	\$22,251	\$19,178	\$20,091
Number of Cows per FTE Labor.....	36	32	51	43	42	61	33	28	37
Cwts. of Milk Sold per FTE Labor....	4,042	4,173	5,033	4,566	4,913	6,350	3,664	4,304	3,277
Pounds of Milk Sold per Cow.....	11,658	13,582	10,044	11,169	12,508	10,985	11,952	14,855	8,791
Productive Crop Acres per Cow.....	3.9	4.1	2.0	4.01	3.96	1.98	4.37	2.27	1.94
Capital Cost per Cow.....	\$862	\$1,306	\$834	\$929	\$1,048	\$799	\$1,058	\$1,164	\$880
All Labor Costs per Cow.....	\$1,087	\$1,198	\$741	\$807	\$1,175	\$633	\$1,361	\$1,124	\$884
Fixed Cost per Cow (DIRTI)	\$1,208	\$1,782	\$1,004	\$1,292	\$1,378	\$1,008	\$1,343	\$1,585	\$998
Capital Invested per Cow.....	\$15,656	\$23,791	\$15,151	\$16,652	\$19,876	\$12,763	\$19,599	\$18,806	\$18,335
Net Farm Income per Crop Acre.....	\$451	\$683	\$911	\$496	\$841	\$1,078	\$425	\$688	\$689
Lbs. Milk Produced per Crop Acre.....	3,262	4,539	6,053	2766	4252	6160	3413	6826	5911
Fert/Chem/Seed Cost/Crop Acre.....	\$82	\$98	\$200	\$91	\$82	\$175	\$71	\$153	\$233
Livestock over Total Investment %	17%	13%	22%	14.24%	13.74%	26.78%	12.44%	14.91%	15.45%
Cash Exp./Cash Inc.w/o Labor&Int.....	60%	63%	55%	49.88%	49.52%	50.66%	67.11%	80.95%	60.62%
All Labor as Percent of Total Costs.....	23%	21%	20%	21.20%	25.34%	18.12%	23.90%	17.47%	23.17%
Fixed Cost as Percent of Total Cost.....	27%	31%	27%	34.83%	31.85%	27.20%	25.66%	24.31%	25.97%
**Net Farm Income From Operations	\$120,332	\$137,046	\$162,006	\$216,989	\$165,331	\$228,686	\$52,280	\$75,822	\$73,098
**Rate of Return on Assets.....	4.70%	4.85%	10.28%	7.94%	7.74%	15.87%	1.81%	1.95%	2.83%
**Operating Profit Margin.....	17.01%	20.97%	22.44%	32.39%	31.09%	32.43%	7.18%	6.66%	9.13%
**Asset Turnover Ratio.....	34.04%	24.83%	35.76%	27.37%	26.07%	46.29%	23.95%	28.73%	21.71%
Dairy TRANS Profit Status is.....	Ave	Ave	Grt/Good	Grt/Good	Grt/Good	Super/Grt	Fair/Poor	Fair/Poor	Ave/Poor
Dairy TRANS Performance Rating	50.27%	52.44%	72.57%	71.80%	70.67%	101.75%	31.40%	33.33%	33.67%

Note: The “average” is calculated as the sum of the individual farms for each item, not a previous item’s sum divided by another item’s sum, which yields slightly different results.

Thanks to Brian Wickline, Monroe County Agricultural Extension Agent, West Virginia for his critical review of this publication and thanks to the many dairy producers who so graciously shared their financial data for others to learn from.

Thanks also to Wade Miller, Joe Klein and Gerry Cohn and Organic Valley Cooperative for their review, assistance in soliciting farmer participation and funding costs of collecting and analyzing data. Note, not all of the organic farms were Organic Valley producers.

For more information visit the ISU Dairy Team at:
www.extension.iastate.edu/dairyteam or
www.extension.iastate.edu/dubuque/dairy